2.0 ALTERNATIVES

The National Environmental Policy Act (NEPA) requires that agencies proposing a major project explore various ways that the project's purpose and need could be met. This chapter describes the alternatives that were evaluated in the DEIS and identifies and describes the Preferred Alternative (Alternative B Modified) that is the subject of this FEIS.

Two build alternatives (Alternative A and Alternative B) were considered in the DEIS. Following approval of the DEIS, a third build alternative, Alternative B Modified, was developed to further reduce impacts and incorporate changes made to the KMTPO travel demand model. These three build alternatives, as well as the No-Build Alternative, were presented at two DEIS public hearings. Following the circulation of the DEIS in 2012 and consideration of the comments received from the public and federal, state, regional and local agencies, between 2011 and 2013, TDOT selected Alternative B Modified as the Preferred Alternative.

2.1 Background in Determining Reasonable Alternatives

A continuous four-lane alternative with a divided median was considered and discussed during the planning stages of the project and through the CSS process. Although some support was noted for this alternative, there was considerable opposition, in part, due to the increased ROW requirements, which would require a higher number of family and business relocations, adverse impacts to the historic Yancey's Tavern property, and additional grave relocations within the East Lawn Memorial Gardens Cemetery located directly across the roadway from the historic property. The continuous, four-lane alternative would also require higher areas of encroachment into floodplains, greater lengths of channel changes to streams, and potential hazardous material impacts. The public expressed concerns about potential diminished visual and rural aesthetics, accelerated development, and increased traffic speed in the corridor if a continuous four-lane alignment were to be constructed.

In the CSS process, the public expressed preferences for the blending of four-, three-, and two-lane sections of the roadway. They also expressed a preference for maintaining fewer travel lanes and lower speed limits in portions of the project area to minimize potential increases in land use changes within and adjacent to the project area.

Conceptual layouts were presented for discussion at two public involvement sessions that were held in May, 2005, associated with the CSS process. The layouts were not fully developed alternatives. They were presented as tables with options (i.e., landscaped median or center turn lane). Three main concepts, A, B, and C, were presented.

A preference survey was included with the handout material distributed during both sessions. In the survey, citizens were asked to express a preference for Concept A, B, C, or the No-Build Alternative along various segments of the study corridor. The public comments favored Concept C by 1,102 of the 2,424 responses collected. Concept C incorporates the public's expressed preference for the blending of four-, three-, and two-lane sections of the roadway along the corridor. Concepts A and B were dismissed by the CRT and TDOT based on a lack of public support for a four-lane section in the portion of the project between Cooks Valley Road and I-81. Concept C was carried forward for further consideration in the design process. Concept C was renamed Alternative A in the DEIS document. Alternative B in the DEIS document is a refinement of Alternative A. Alternative B incorporates the public's desire to minimize adverse impacts to the historic Yancey's Tavern property and grave relocations within the East Lawn Memorial Gardens Cemetery, located directly across the roadway from the historic property.

Therefore, three alternatives were considered in the DEIS: the No-Build Alternative, Alternative A, and Alternative B.

Following approval of the DEIS on January 5, 2012, additional traffic data was developed to incorporate a revised travel demand model by the KMTPO, which resulted in a reduction in future traffic projections. This new data along with a new Highway Capacity Manual (HCM 2010) prompted TDOT to re-evaluate the design of the alternatives. This led to a reduction in project impacts through development of a modification of Alternative B that was named Alternative B Modified. This alternative was also developed in coordination with resource agencies to create an alternative that would further minimize impacts to Yancey's Tavern and the cemetery without compromising the integrity of the project's design.

After the review of social, ecological, and cultural impacts, as well as the consideration of public and agency comments, Alternative B Modified was selected as the Preferred Alternative for the project. Public comments are included in Appendix G.

2.2 No-Build Alternative

Under the No-Build Alternative, SR 126 would not be improved other than to have scheduled maintenance activities. There are advantages to the No-Build Alternative. One is that present travel patterns would not be temporarily disrupted by the construction of this project. Noise and construction impacts would not occur. There would be no impacts to wildlife, cultural resources, or farmland. There would be no family or business relocations and no costs for ROW, construction, or utility relocation. The No-Build Alternative would have no direct impacts on the environment.

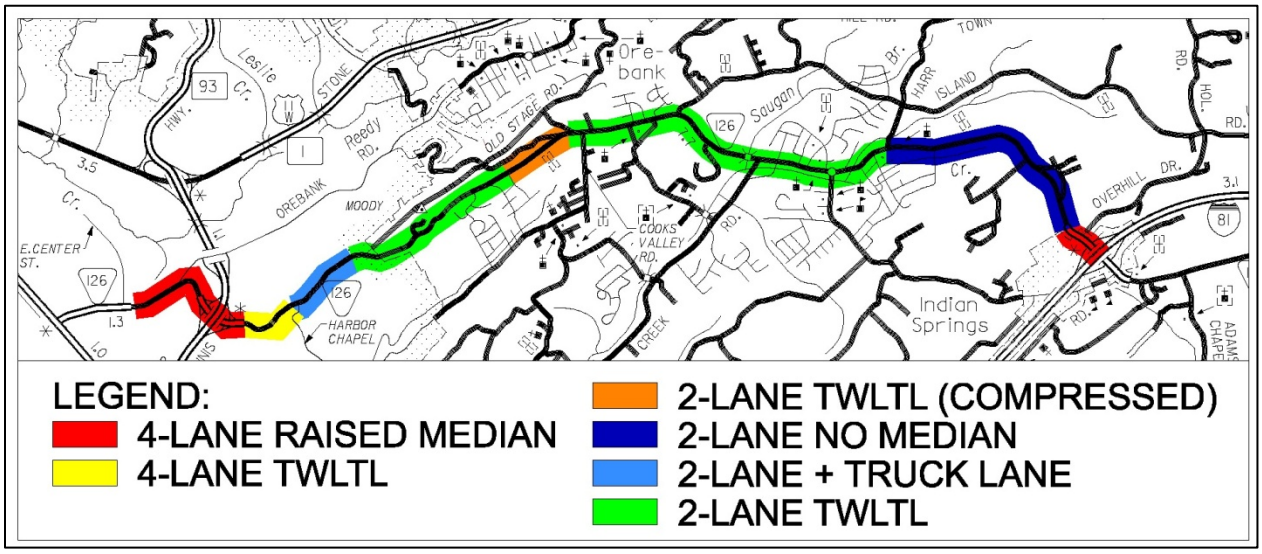
There are several disadvantages to the No-Build Alternative. It would not correct existing geometric deficiencies, improve safety along the route, or improve access management, and therefore does not meet the purpose and need of the project. In addition, the No-Build Alternative fails to meet secondary goals of improving pedestrian and bicyclist mobility. Because of these reasons, the No-Build Alternative was eliminated from consideration in the DEIS. The characteristics of the existing SR 126 corridor are described in Section 1.2 of this document.

2.3 Preferred and Other Build Alternatives Considered in the DEIS

2.3.1 Preferred Alternative (Alternative B Modified)

As previously mentioned, before selection as the Preferred Alternative, this concept was studied and presented to the public as Alternative B Modified. As a modification to Alternative B, the four-lane segment that extended from East Center Street to east of Lemay Drive has been reduced in length. The revised design concept proposes four travel lanes from East Center Street to Harbor Chapel Road. From Harbor Chapel Road to I-81, the concept proposes two travel lanes; one in each direction. There is an additional eastbound travel lane from Harbor Chapel Road to Old Stage Road to accommodate trucks ascending the steep grade of Chestnut Ridge. There will be a continuous left-turn lane separating the two travel lanes from Old Stage Road to Harr Town Road. The following information describes each section in more detail. Figure 2-1 graphically illustrates the various roadway sections along the route as proposed for the Preferred Alternative (Alternative B Modified) and is followed by cross-sections for each. The conceptual layouts for the Preferred Alternative (Alternative B Modified) are provided in Appendix I. The Preferred Alternative (Alternative B Modified) would require approximately 100 acres of ROW.

FIGURE 2-1: PREFERRED ALTERNATIVE (ALTERNATIVE B MODIFIED) ROADWAY SECTIONS

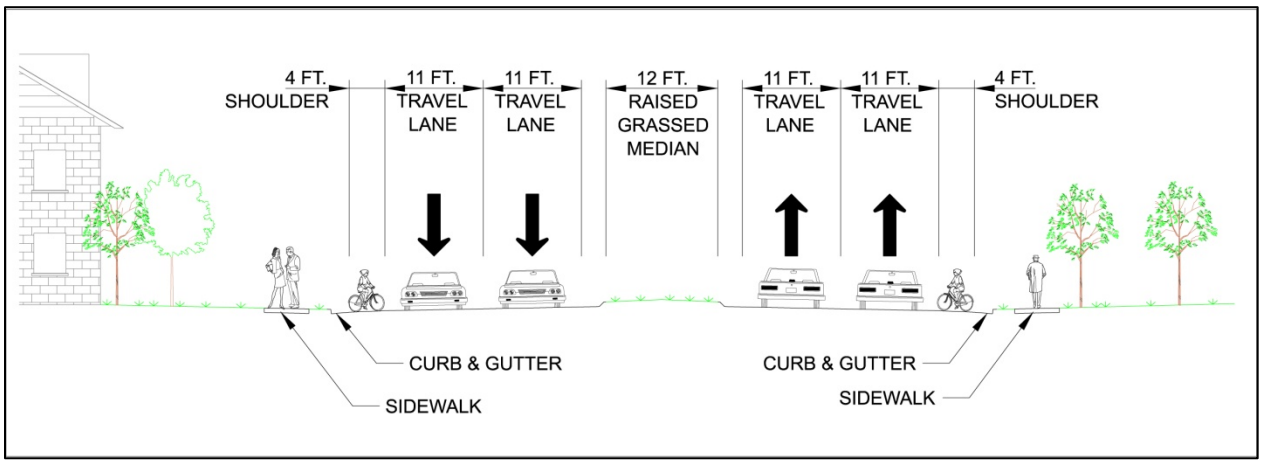


Note: TWLTL (Two-way, Left-turn Lane)

Section 1: East Center Street to west of Hawthorne Street

The first segment of the four-lane section, beginning at East Center Street and extending to west of Hawthorne Street, will have two, 11-foot lanes in each direction separated by a 12-foot raised grass median. It will also have four-foot shoulders to accommodate bicyclists and have five-foot sidewalks for pedestrians on both sides of the roadway. Details such as delineation of bike lanes will be determined in accordance with TDOT policies and standards during the design phase. Figure 2-2 illustrates the first section of the Preferred Alternative (Alternative B Modified).

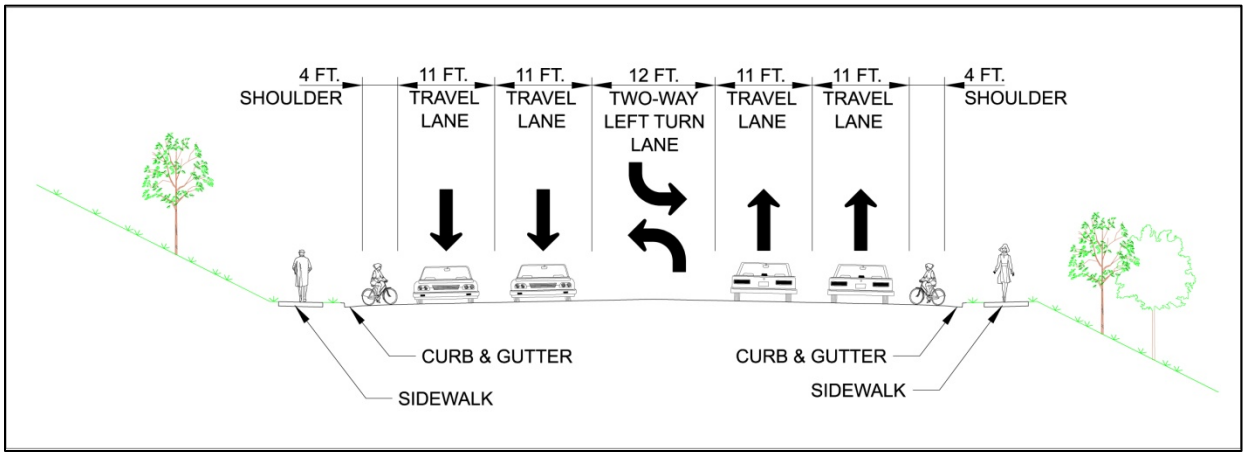
FIGURE 2-2: SECTION 1 EAST CENTER STREET TO WEST OF HAWTHORNE STREET



Section 2: West of Hawthorne Street to Harbor Chapel Road

West of Hawthorne Street, the grass median will transition to a center, two-way, left-turn lane and continue to Harbor Chapel Road. All other features will remain the same as Section 1. Figure 2-3 illustrates the second section of the Preferred Alternative (Alternative B Modified).

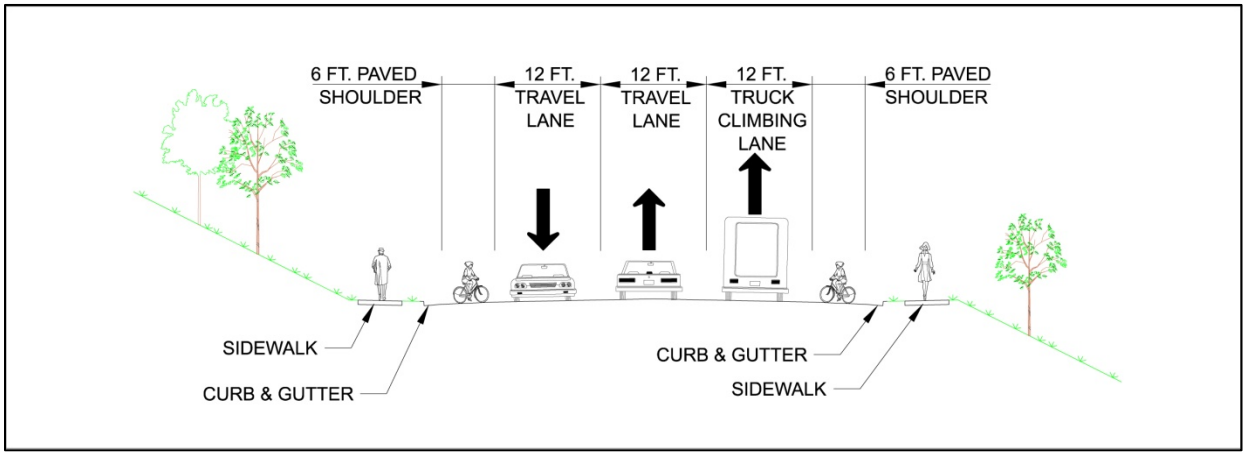
FIGURE 2-3: SECTION 2 WEST OF HAWTHORNE STREET TO HARBOR CHAPEL ROAD



Section 3: Harbor Chapel Road to west of Old Stage Road

At Harbor Chapel Road, the roadway cross-section is reduced from the four-lane section of Alternative B to a three-lane roadway consisting of one lane in each direction and a 12-foot eastbound truck climbing lane. Five-foot sidewalks and six-foot paved shoulders to accommodate bicyclists are proposed for both sides of the roadway. Details such as the delineation of bike lanes and sidewalk width will be determined in accordance with TDOT policies and standards during the design phase. This three-lane roadway will continue to west of Old Stage Road. Figure 2-4 illustrates the third section of the Preferred Alternative (Alternative B Modified).

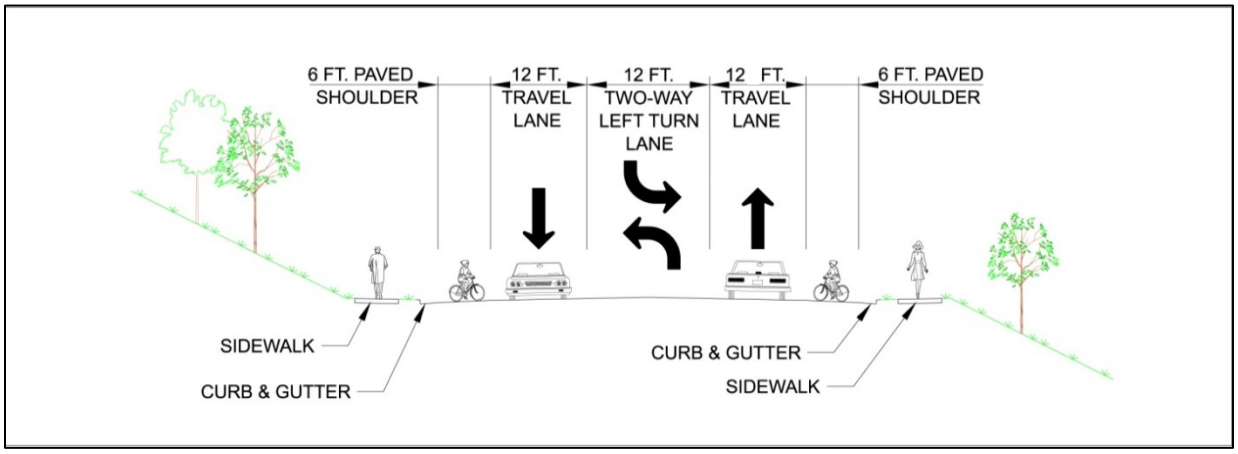
FIGURE 2-4: SECTION 3 HARBOR CHAPEL ROAD TO WEST OF OLD STAGE ROAD



Section 4: Old Stage Road to Harr Town Road

The three-lane roadway will transition near Old Stage Road to a two-lane roadway (one lane in each direction) separated by a center, two-way, left-turn lane, which continues to Harr Town Road. Five-foot sidewalks for pedestrians and six-foot paved shoulders to accommodate bicyclists are proposed for both sides of the roadway. Details such as the delineation of bike lanes will be determined in accordance with TDOT policies and standards during the design phase. Figure 2-5 illustrates the fourth section of the Preferred Alternative (Alternative B Modified).

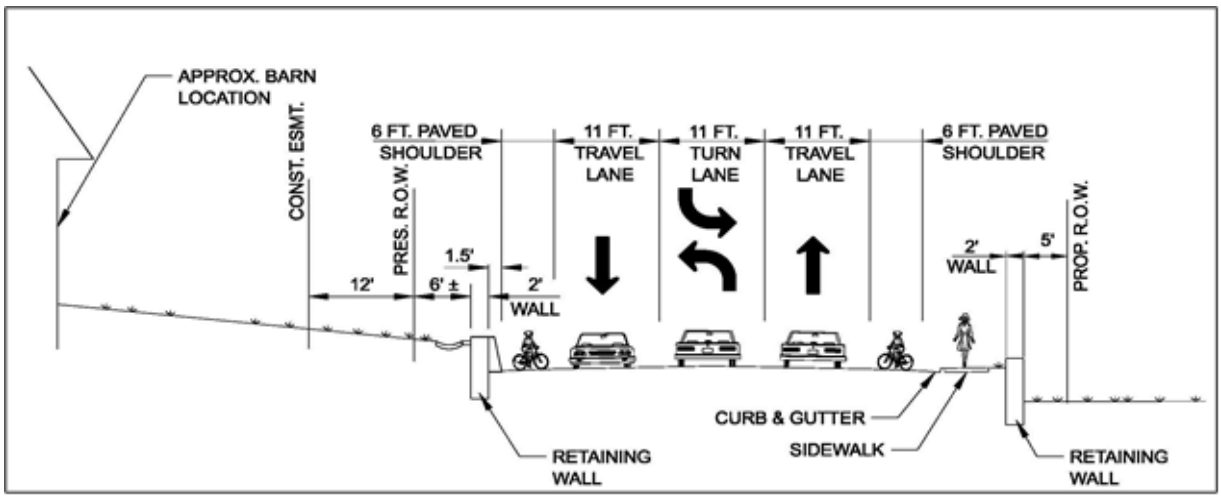
FIGURE 2-5: SECTION 4 HARR TOWN ROAD TO OLD STAGE ROAD



Section 4A: Yancey's Tavern and East Lawn Memorial Gardens Cemetery

The proposed three-lane cross-section is compressed as it passes between Yancey's Tavern and the East Lawn Memorial Gardens Cemetery. This design concept avoids taking property from Yancey's Tavern, which is listed on the NRHP, and avoids displacing any known grave sites. Six-foot paved shoulders to accommodate bicyclists are proposed for both sides of the roadway, and a five-foot sidewalk for pedestrians would be located across the road from Yancey's Tavern. The compressed section begins east of Lemay Drive and ends at the intersection of Cooks Valley Road and Eatons Station Road. Figure 2-6 illustrates the compressed portion of the fourth section of the Preferred Alternative (Alternative B Modified).

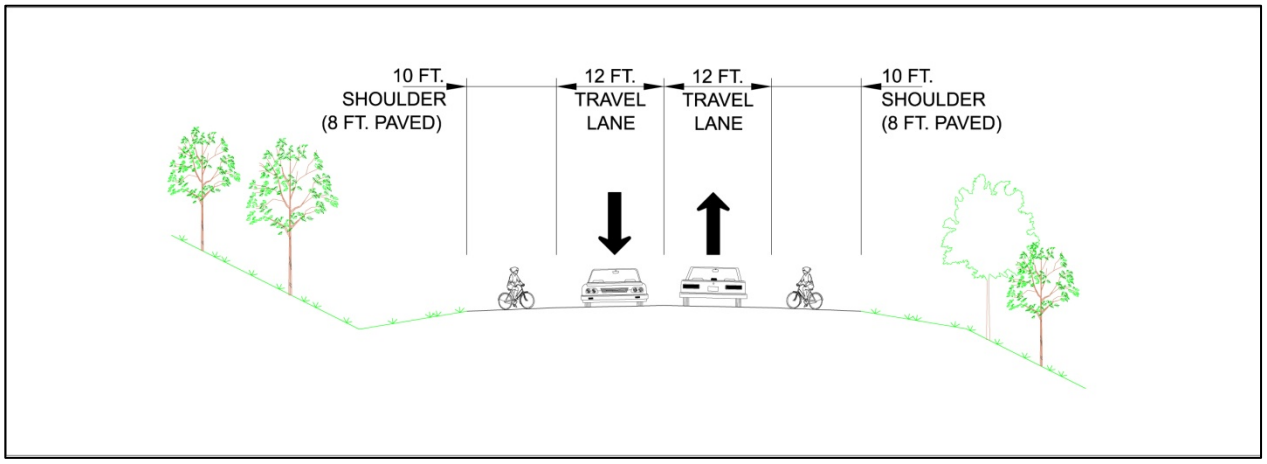
FIGURE 2-6: SECTION 4A YANCEY'S TAVERN AND EAST LAWN MEMORIAL GARDENS CEMETERY



Section 5: Harr Town Road to west of Carolina Pottery Road

At Harr Town Road, the roadway cross-section transitions to a two-lane roadway, with ten-foot shoulders on both sides of the roadway to accommodate both pedestrians and bicyclists, and continues to Carolina Pottery Road. Figure 2-7 illustrates the fifth section of the Preferred Alternative (Alternative B Modified).

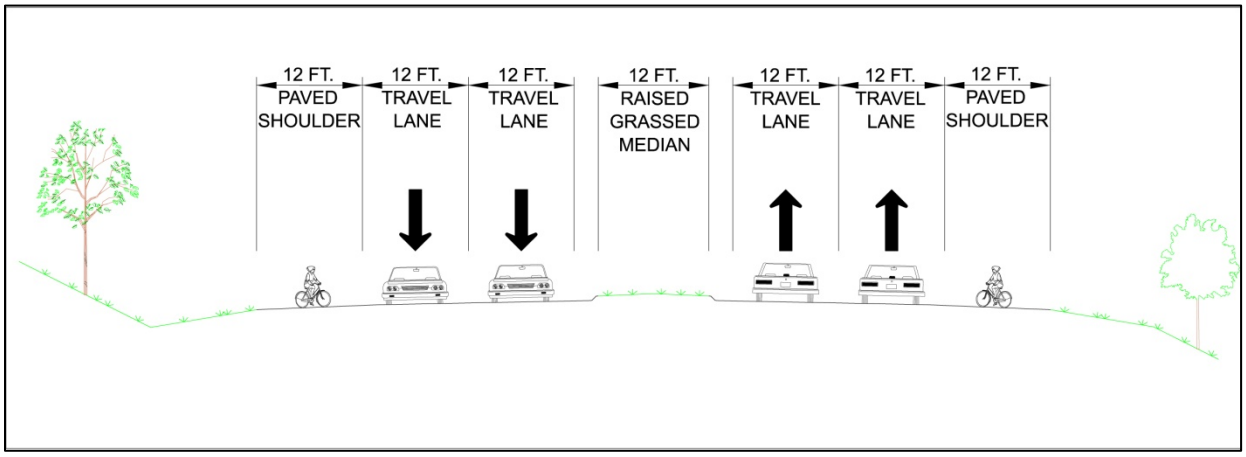
FIGURE 2-7: SECTION 5 HARR TOWN ROAD TO WEST OF CAROLINA POTTERY ROAD



Section 6: West of Carolina Pottery Road to Interstate 81

The roadway transitions at Carolina Pottery Road to a four-lane divided highway with a 12-foot, raised grass median with 12-foot paved shoulders on both sides of the roadway to accommodate both pedestrians and bicyclists, and continues to I-81, the ending point for this project. Figure 2-8 illustrates the sixth section of the Preferred Alternative (Alternative B Modified).

FIGURE 2-8: SECTION 6 WEST OF CAROLINA POTTERY ROAD TO INTERSTATE 81



The Preferred Alternative (Alternative B Modified) meets the purpose and need of the project with improvements to safety, roadway geometry, and access management, as well as traffic operations compared to the No-Build Alternative. The modified design, which begins east of Lemay Drive and ends at the intersection of Cooks Valley Road and Eatons Station Road, modified design reduces the footprint of the roadway and reduces the cost and number of displacements in relation to Alternatives A and B, while improving safety.

Improve Safety

Due to high crash rates along the route, safety is the predominant need identified for the project. Safety is improved by correcting deficiencies in roadway geometry, adding adequate shoulders, and managing access to SR 126. By correcting deficiencies in roadway alignment, sight distances are improved and roadway curvature is reduced to be appropriate for the proposed travel speeds. Other geometric elements, such as appropriate roadway cross slope, raised medians, center turn lanes, curbs, and drainage systems, will be incorporated to meet TDOT Design Standards. By providing adequate shoulders, the roadway will have a much needed recovery area along the outside of the roadway and a safe pull-over location for vehicles. Buses and mail delivery can utilize the proposed shoulders, as needed. Adequate shoulder widths will also provide accommodations for bicycles and pedestrians. All of these features improve the safety of the roadway. Many of these features, such as improved lane and shoulder widths and center left-turn lanes, will also improve traffic operations. For example, in the three-lane section from Old Stage Road to Harr Town Road, the center left-turn lane will allow left-turning vehicles to exit the traffic flow while waiting on a gap in opposing traffic to allow a left turn. In an area with many access points to cross roads, businesses, and residents, this feature will benefit traffic operations when compared to the existing two-lane roadway. Additional benefits to safety and traffic operations will be gained by management of access points along the route, which are discussed further in the next section.

Improve Access Management

In addition to the SR 126 roadway typical cross-section and alignment improvements, several side road intersection approaches to SR 126 are proposed for improvement. Many of these minor connections intersect SR 126 at sharp angles. Realigning side road approaches to intersect as close to 90 degrees as possible has proven safety benefits. Conceptual layouts of the Preferred Alternative (Alternative B Modified), which include proposed realignments to the proposed side road approaches, are provided in Appendix I. These realignments and other modifications will be considered during the design phase. Side road approaches to SR 126 that are being considered for realignment include:

- Orebank Road
- SR 93 NB Exit Ramp
- Heather Lane
- Amy Avenue
- Island Road
- Old Stage Road
- Ethel Drive
- Eaton Station Road
- Woods Way
- Woodridge Avenue
- Natchez Lane
- Harr Town Road
- Gravel Top/Adams Road
- Trinity Lane
- Country Drive

The Preferred Alternative (Alternative B Modified) also proposes to close several intersections along SR 126. Access for most of these minor connections to SR 126 will remain via improved intersections on neighboring roads. Closing these intersections will improve access control and safety along the route due to the reduction of conflict points. These road closures and others will

be considered further during the design phase when final determination is made. The conceptual layouts of the Preferred Alternative (Alternative B Modified), which include the proposed intersection closings, are provided in Appendix I. Intersections along SR 126 that are being considered for closure are:

- Edens Ridge Road
- Hillcrest Drive
- Hawthorne Street
- Chestnut Ridge Road
- Beverly Hills
- Tanglewood Road
- Holiday Road
- Shuler Drive
- Kent Street
- Red Robin Lane
- Cree Street
- Gravel Top Road
- Busbee Street
- Lana View Drive

Other intersections and roadway segments will require realignment or closure as the roadway network is improved along with SR 126. The conceptual layouts show the intersections and roadway segments that are currently under consideration, such as Busbee Street and Woodridge Avenue. Also, a new local street connection is proposed, Parker Street Connector, to maintain access to Holiday Road (see Sheet 6 of the conceptual layouts). All roadway connections and alignments will be reviewed and improved, as appropriate, in the design phase of this project.

Additional Design Solutions

During design, TDOT will look for ways to further reduce impacts to the environment and the number of residential relocations. For example, retaining walls will be considered where feasible and cost effective to reduce the width of ROW needed.

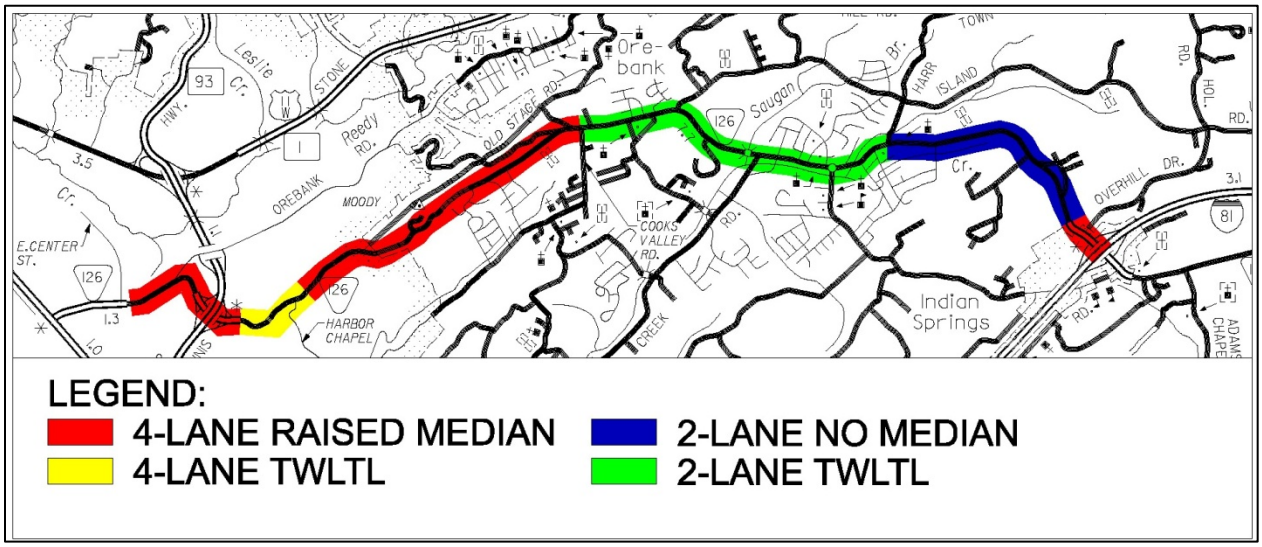
2.3.2 Alternative A

Alternative A, as included in the DEIS, would improve SR 126 to a four-lane facility (two travel lanes in each direction) within the commercial and residential areas of the western half of the study corridor. The eastern half of the study corridor, which is rural in nature, would remain a two-travel-lane facility. Either a raised median or two-way left-turn lane would be provided along the majority of the route. Improved shoulders would be provided along the entire corridor and sidewalks extended to the majority of the commercial and residential areas.

Alternative A would require approximately 239 acres of ROW. Figure 2-9 illustrates the proposed roadway sections for Alternative A. Detailed information regarding Alternative A, including conceptual plans, are provided in the DEIS.

The proposed alignment of Alternative A generally follows the existing alignment. The proposed alignment shifts from side to side to minimize impacts, reduce earthwork volumes, simplify constructability, and improve the curvature of the roadway. Despite the effort to minimize impacts, additional ROW would be required and many residences and businesses will need to be relocated. Numerous gravesites will also need to be relocated at the East Lawn Memorial Gardens Cemetery.

FIGURE 2-9: ALTERNATIVE A ROADWAY SECTIONS



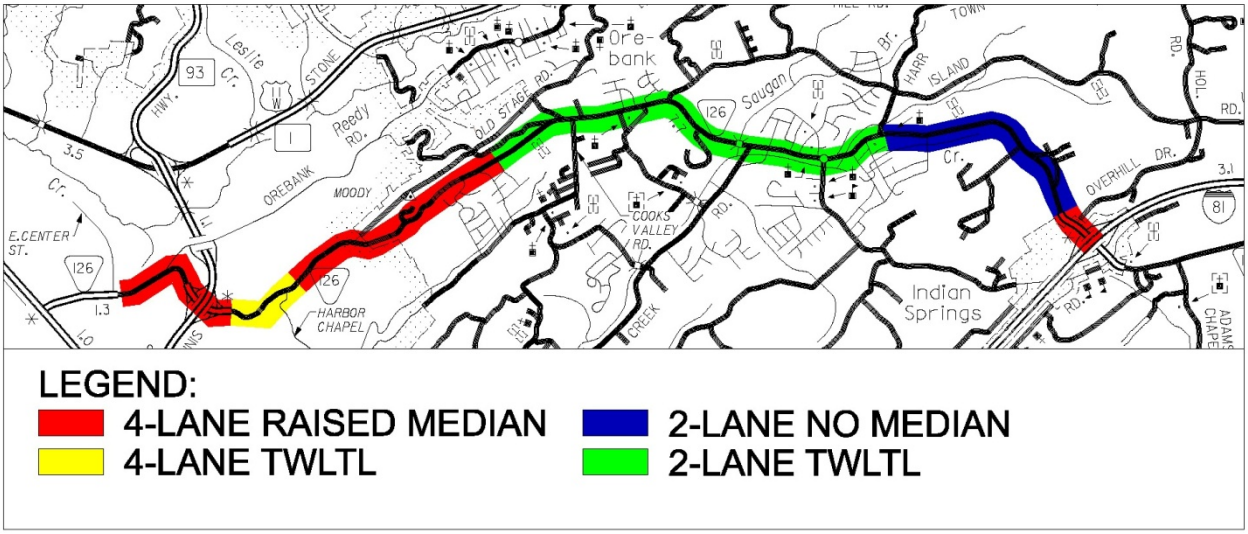
Note: TWLTL (Two-way, Left-turn Lane)

2.3.3 Alternative B

Alternative B utilizes the same proposed typical roadway cross-sections as Alternative A, but the length of the four-travel lane section is reduced. As a result, the section with two travel lanes and a two-way, left-turn lane begins further west, near Lemay Drive, and is 0.6-mile longer than in Alternative A and the widening was shifted to the south. These modifications were made to minimize impacts to Yancey's Tavern and to reduce impacts to the East Lawn Memorial Gardens Cemetery located on opposing sides of SR 126. It should be noted that numerous gravesites would still need to be relocated with Alternative B as included in the DEIS. Additional changes incorporated into Alternative B include minor modifications of the proposed centerline to minimize excavation and fill impacts, and to improve maintenance of traffic during construction. Alternative B would require approximately 121 acres of ROW, which is less than Alternative A. Alternative B would also impact fewer residences and businesses than Alternative A.

Alternative B would require more ROW than with the Preferred Alternative (Alternative B Modified). Figure 2-10 illustrates the proposed roadway sections for Alternative B. Detailed information for Alternative B, including conceptual plans, are included in the appendix of the DEIS.

FIGURE 2-10: ALTERNATIVE B ROADWAY SECTIONS



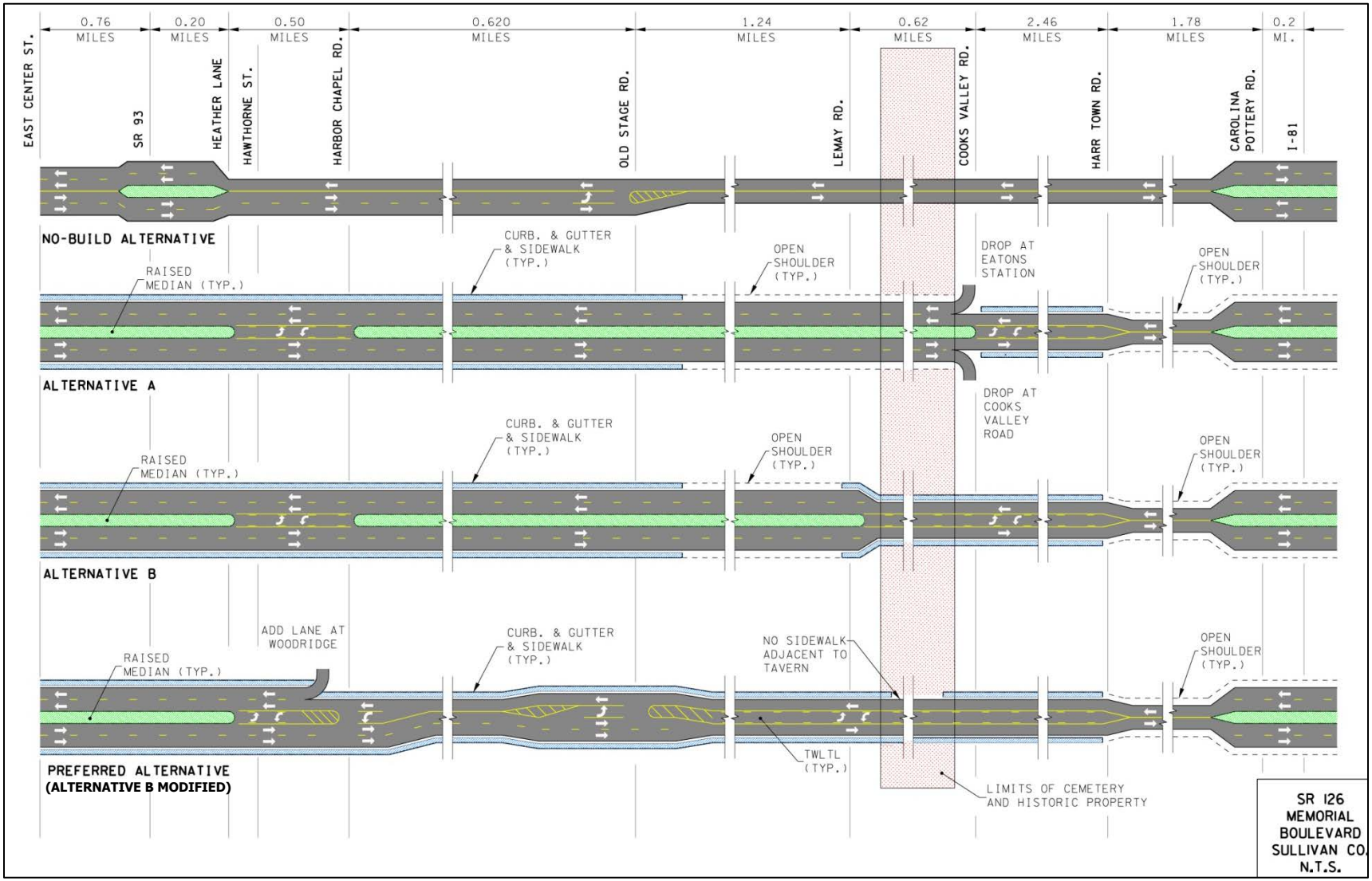
Note: TWLTL (Two-way, Left-turn Lane)

Improved Access Management for Alternative A and Alternative B

The access modifications and their benefits as described for the Preferred Alternative (Alternative B Modified) would also apply to Alternative A or Alternative B. Similar improvements to side road access were proposed and listed for the build alternatives in Chapter 2 of the DEIS. During the development of Alternative B Modified, which was later chosen as the Preferred Alternative (Alternative B Modified), the conceptual design was refined for side road connections.

Figure 2-11 compares the No-Build Alternative, Alternative A, Alternative B, and Preferred Alternative (Alternative B Modified) typical sections for the project.

FIGURE 2-11: ALTERNATIVES TYPICAL SECTION COMPARISON



2.4 Preliminary Cost Estimates

The preliminary cost estimates for the Preferred Alternative (Alternative B Modified) and Alternatives A and B are shown in Table 2-1. No capital costs are associated with the No-Build Alternative. The costs are shown in 2014 dollars. The Preferred Alternative (Alternative B Modified) has the lowest total costs of the three build alternatives considered.

TABLE 2-1: PRELIMINARY COST ESTIMATES

Cost Type	Preferred Alternative (Alternative B Modified)	Alternative A	Alternative B
ROW Acquisition	$ 43,440,000	$ 66,000,000	$ 52,800,000
Utilities	$ 4,795,000	$ 5,847,600	$ 5,021,500
Construction	$ 51,700,000	$ 60,500,000	$ 51,700,000
Total Estimated Costs	$ 99,935,000	$ 132,347,600	$ 109,521,500

Source: ICA Engineering (2014)

2.5 Selection of the Preferred Alternative (Alternative B Modified)

TDOT reviewed the comments received at the public hearing and during the official comment period. All comments were read and considered in TDOT's alternative decision-making process. This information was compiled with data from technical reports and analyses related to each alternative and that was used to evaluate each alternative and the selection of a preferred alternative.

2.5.1 Advantages and Disadvantages of Alternatives

Each Build Alternative: follows the existing alignment; improves safety by realigning or closing approaches on intersecting roads (as appropriate); provides shoulders and turn lanes to improve safety; provides sidewalks and widened shoulders to accommodate bicyclists and pedestrians (where feasible); and improves traffic operations. Table 2-2 summarizes the advantages and disadvantages of each alternative as considered for selection of a preferred alternative.

TABLE 2-2: ADVANTAGES AND DISADVANTAGES OF PROJECT ALTERNATIVES

ADVANTAGES OF PROJECT ALTERNATIVES		
PREFERRED ALTERNATIVE *Modification to Alternative B*	**ALTERNATIVE A** *CRT Recommended Concept*	**ALTERNATIVE B** *Modification to Alternative A*
• Least impact to ROW, (fewer displacements), Yancey's Tavern, East Lawn Memorial Cemetery, and the environment in general. • Least costly. • No Adverse Effect to Yancey's Tavern. • Received favorably at the Public Hearing.	• Accommodates higher traffic volumes from Harbor Chapel Road to Cooks Valley Road.	• Accommodates higher traffic volumes from Harbor Chapel Road to east of Lemay Drive. • Requires less displacement than Alternative A. • Less costly than Alternative A.

TABLE 2-2: ADVANTAGES AND DISADVANTAGES OF PROJECT ALTERNATIVES (CONTINUED)

DISADVANTAGES OF PROJECT ALTERNATIVES		
PREFERRED ALTERNATIVE *Modification to Alternative B*	**ALTERNATIVE A** *CRT Recommended Concept*	**ALTERNATIVE B** *Modification to Alternative A*
• Less capacity for future traffic than a four-lane section from Harbor Chapel Road to Cooks Valley Road. • Least desirable for maintenance of traffic and constructability.	• Greatest impact to ROW and graves. Requires the most displacements. • Adverse Visual Impact to Yancey's Tavern and requires Memorandum of Agreement. • Highest cost.	• Significant impact to ROW and graves. Requires more displacements than Preferred Alternative. • Adverse Visual Impact to Yancey's Tavern and requires Memorandum of Agreement. • Higher cost than Preferred Alternative.

2.5.2 Reasons for Selection of the Preferred Alternative (Alternative B Modified)

The Preferred Alternative (Alternative B Modified) was selected after the review of potential social, ecological, and cultural impacts as well as the consideration of public and agency comments. After careful consideration, the alternative studied and presented to the public as Alternative B Modified was selected as the Preferred Alternative because it best meets the purpose and need of the project by improving safety while minimizing impacts to the environment and the community. As previously stated, the Preferred Alternative (Alternative B Modified) was the only concept studied that did not have an adverse visual effect to Yancey's Tavern or impacts to graves in East Lawn Memorial Gardens Cemetery. It also has a lower total number of residential and business displacements. The Preferred Alternative (Alternative B Modified) was supported by the mayor of Kingsport and the mayor of Sullivan County in a joint letter dated March 21, 2013. This correspondence is included in Appendix G.

When compared to the existing roadway, the Preferred Alternative (Alternative B Modified) creates a safer, more efficient route between the City of Kingsport and I-81. Lane widths and shoulder widths will be improved along the corridor. Deficient horizontal and vertical curves will be improved. These geometric improvements will create a safer, more efficient route. The addition of wider shoulders along the entire corridor and sidewalks along commercial and residential areas will promote bicycle and pedestrian use of the facility. Access management will be improved along the commercial areas of the corridor through the use of raised grass medians and curb and gutter. Throughout the study corridor, access management will be improved by closing or realigning many side road intersections with SR 126. This will improve the safety and efficiency of the route. The Preferred Alternative (Alternative B Modified) will improve traffic operations and travel times for both commuters and emergency response vehicles. The Preferred Alternative (Alternative B Modified) will provide these improvements in a context sensitive design, preserving the rural nature of the eastern half of the study corridor.

Alternative A would have the greatest impact to ROW and the East Lawn Memorial Gardens Cemetery. The alternative would have a visual effect on Yancey's Tavern and would require a Memorandum of Agreement (MOA) under the *National Historic Preservation Act of 1966* (NHPA). Alternative A would have the highest construction cost of the three build alternatives: Alternative A, Alternative B, and Alternative B Modified. Based on these factors, after Alternative

A was considered, it was eliminated as an alternative. A detailed discussion of Alternative A was presented in Section 2.0 of the DEIS.

Alternative B would have an impact to ROW and the East Lawn Memorial Gardens Cemetery. The alternative would have a visual effect on Yancey's Tavern and would require a MOA under the NHPA. Based on these factors, after Alternative B was considered pursuant to NEPA, it was eliminated as an alternative. A detailed discussion of Alternative B was presented in Section 2.0 of the DEIS.

The No-Build Alternative was considered and eliminated because it does not meet the purpose and need of the project.

Table 2-3 summarizes project data contained in the DEIS for Alternatives A and B along with corresponding information compiled for the Preferred Alternative (Alternative B Modified). Like the alternatives proposed in the DEIS, the Preferred Alternative (Alternative B Modified) provides an improvement to traffic operations in comparison to the No-Build Alternative.

TABLE 2-3: COMPARISON OF PROJECT ALTERNATIVES

Item	No-Build	Preferred Alternative (Alternative B Modified)	Alternative A	Alternative B
Estimated ROW (Acres)[1]	0	100	239	121
Residential Displacements	0	104	241	162
Business Displacements	0	24	43	30
Non-Profit Displacements (Volunteer Fire Station)	0	1	1	1
Air Quality/Noise Impacts Requiring Mitigation	0	0	0	0
Archaeological Sites Impacted	0	0	0	0
Historic Resources Adversely Impacted	0	0	1	1
Section 4(f) Properties Impacted	0	0	0	0
Gravesites Impacted	0	0	350	90
Wetlands Impacted (Acres)	0	0	0	0
Stream Crossings (Linear Feet)	0	3107	4863	3107
Floodplains Impacts (Acres)	0	3.2	4	3.2
Forest Land Acquired (Acres)[2]	0	50	75	55
Threatened/Endangered Species Impacts	0	0	0	0
Hazardous Material Sites Impacted (Potential)	0	5	7	5
Farmland Impacted (Acres)	0	5	15	5
Total Estimated Project Cost (Million $)	$ -	$99.9	$132.3	$109.5

1. *The estimated ROW width is reported based upon an approximate width needed for each typical section. Actual proposed ROW widths will vary throughout the project based upon the use of retaining walls, slope easements, total versus partial property acquisitions, uneconomic remnants, etc.*
2. *Includes all forest land impacted within the estimated construction limits, which may be within slope easements and outside of the ROW limits.*

The Preferred Alternative (Alternative B Modified) reduces the cost and number of residential displacements, avoids Yancey's Tavern and avoids displacing all known grave sites, while offering similar safety improvements as Alternatives A and B.

2.6 Alternatives Previously Considered

2.6.1 Continuous Four-Lane Alternative

A continuous four-lane alternative was considered and discussed in the planning and CSS process and subsequent to circulation of the DEIS and the public hearings. Although many supported this alternative, there were more in opposition, in part, due to the increased ROW requirements, which would require a higher number of family and business relocations, adverse impacts to the historic Yancey's Tavern property, and additional grave relocations within the East Lawn Memorial Gardens Cemetery located directly across the roadway from historic property. The continuous, four-lane alternative would also require higher areas of encroachment into floodplains, a greater visual impact to Chestnut Ridge, greater lengths of channel changes to streams, and the potential for hazardous material impacts. The public expressed concerns about potential diminished visual and rural aesthetics, accelerated development, and increased traffic speed in the corridor if a continuous four-lane alignment were to be constructed.

2.6.2 Transportation Systems Management (TSM) Alternative

TSM is an integrated approach to optimize the performance of the existing transportation infrastructure through the implementation of systems, services, and projects designed to preserve capacity and improve security, safety, and reliability. The goal of TSM is to improve the efficiency of existing transportation facilities while minimizing the need for major construction/reconstruction projects. TSM strategies reviewed in the DEIS include the following: ridesharing, roadway improvements, dedicated lanes, bicycle and pedestrian facilities, transit improvements, intelligent transportation systems, and general purpose lanes. TSM strategies alone cannot serve the purpose and need for this project, which includes correcting existing roadway deficiencies and improving access management. Therefore, TSM alternatives as the only improvements were not carried forward in the DEIS.

2.6.3 Mass Transit Alternative

Fixed route mass transit service has been offered within the City of Kingsport through the Kingsport Area Transit Service (KATS) since 1995. KATS offered five routes at the time of the DEIS. KATS now operates six vehicles on six fixed routes Monday through Friday from 7:30 am until 5:30 pm. The cost to ride a KATS bus is $1 for the general public ages 18 to 64. The fare is reduced to $0.50 for those 65 and older, disabled passengers, and military veterans.

What was described as KATS Paratransit in the DEIS is now known as Dial-A-Ride (DAR). DAR complements KATS by providing curb-to-curb, next-day transportation service for Kingsport seniors aged 65 or older and also for residents with a health-related condition. The system operates four vehicles during the same service hours as KATS.

NET Trans is a public transportation system now in place that was not prior to completion of the DEIS. NET Trans is designed to serve those who live in the Tri-Cities Area. Red Route 3 of the NET Trans system transports persons from the KATS Transit Center in downtown Kingsport to the Johnson City transit connection at I-81.

KATS is currently offered within the first 0.8-mile (10 percent) of the study corridor between East Center Street and Stratford Road. DAR is offered within the Kingsport city limits, which accounts

for 2.1 miles (25 percent) of the study corridor. Net Trans is not offered within the study corridor. There are no known plans to extend transit service beyond these limits. The majority of the study corridor is rural in nature with low population densities, which is unfavorable for transit ridership. Furthermore, improvements to the mass transit system alone do not serve the purpose and need for this project, which is primarily to improve the safety of the route. Therefore, the Mass Transit Alternative was not carried forward in the DEIS.

It should be noted that if expanding transit service along the study corridor is ever warranted, the improvements in the Preferred Alternative (Alternative B Modified) will be beneficial to the expansion. SR 126 is primarily a two-lane roadway with limited capacity for future traffic growth. The majority of the route has a rural cross-section with no shoulders or sidewalks. The narrow cross-section width, lack of shoulders, and lack of sidewalks makes many segments of the corridor unfavorable for bus/transit service. There are few safe locations to locate bus stops, with poor pedestrian connectivity between potential stops and adjacent developments. The proposed improvements will correct these deficiencies along the route and provide a facility that is more acceptable for transit service.